

WHAT IS CLAIMED IS:

1. A bearing apparatus for a wheel of vehicle structured as a unit of a hub wheel (1, 14) and a double row rolling bearing (2, 15) comprising:

an inner member (3, 16) including a hub wheel (1, 14) integrally formed on its one end with a wheel mounting flange (6) and on its inner circumferential surface with a serration (8) and having an axially extending cylindrical portion (7); and inner rings (10) press-fitted onto the cylindrical portion (7) of the hub wheel (1, 14) and formed on which outer circumferential surface with at least one of inner raceway surfaces (10a);

an outer member (4) arranged around the inner member (3, 16) and formed with double row outer raceway surfaces (4a) on its inner circumferential surface oppositely to the inner raceway surfaces (10a);

double row rolling elements (5) arranged between the inner and outer raceway surfaces (10a, 4a) of the inner member (3, 16) and the outer member (4);

a cage (11) for freely rollably holding the rolling elements (5); and

seals (12) for sealing an annular space between the inner member (3, 16) and the outer member (4);

characterized in that a partition wall (9) is integrally formed on the hub wheel (1, 14) at its outboard side for closing a central bore of the hub wheel (1, 14).

2. A bearing apparatus for a wheel of vehicle of claim 1 wherein said at least one (14a) of inner raceway surfaces (10a) is formed directly on the outer circumferential surface of the hub wheel (1, 14).

3. A bearing apparatus for a wheel of vehicle of claim 1 wherein the end of said cylindrical portion (7) is plastically deformed radially outward to form

a caulked portion (13) for preventing the inner ring (10) from being slipped off from the cylindrical portion (7) of the hub wheel (1, 14).

4. A bearing apparatus for a wheel of vehicle of claim 3 wherein the outer circumferential region of the wheel mounting flange (6) from its base of inboard side to the cylindrical portion (7) is hardened by high frequency induction hardening as having the surface hardness 58~64 HRC, and the caulked portion (13) is remained unhardened as having the surface hardness of 25 HRC or less after forging.

5. A bearing apparatus for a wheel of vehicle of a semi-floating type comprising an axle housing "H" supported under a body of vehicle; a hollow driving shaft "D/S" inserted into the axle housing "H"; and the bearing apparatus for a wheel of vehicle of claim 1 arranged between the driving shaft "D/S" and an opening of the axle housing "H"; and the driving shaft "D/S" is connected to said inner member (3, 16) so that a torque is transmittable therebetween.

6. A bearing apparatus for a wheel of vehicle of a semi-floating type of claim 5 wherein the driving shaft "D/S" is separably connected to the inner member (3, 16) via the serration.